Figure 1

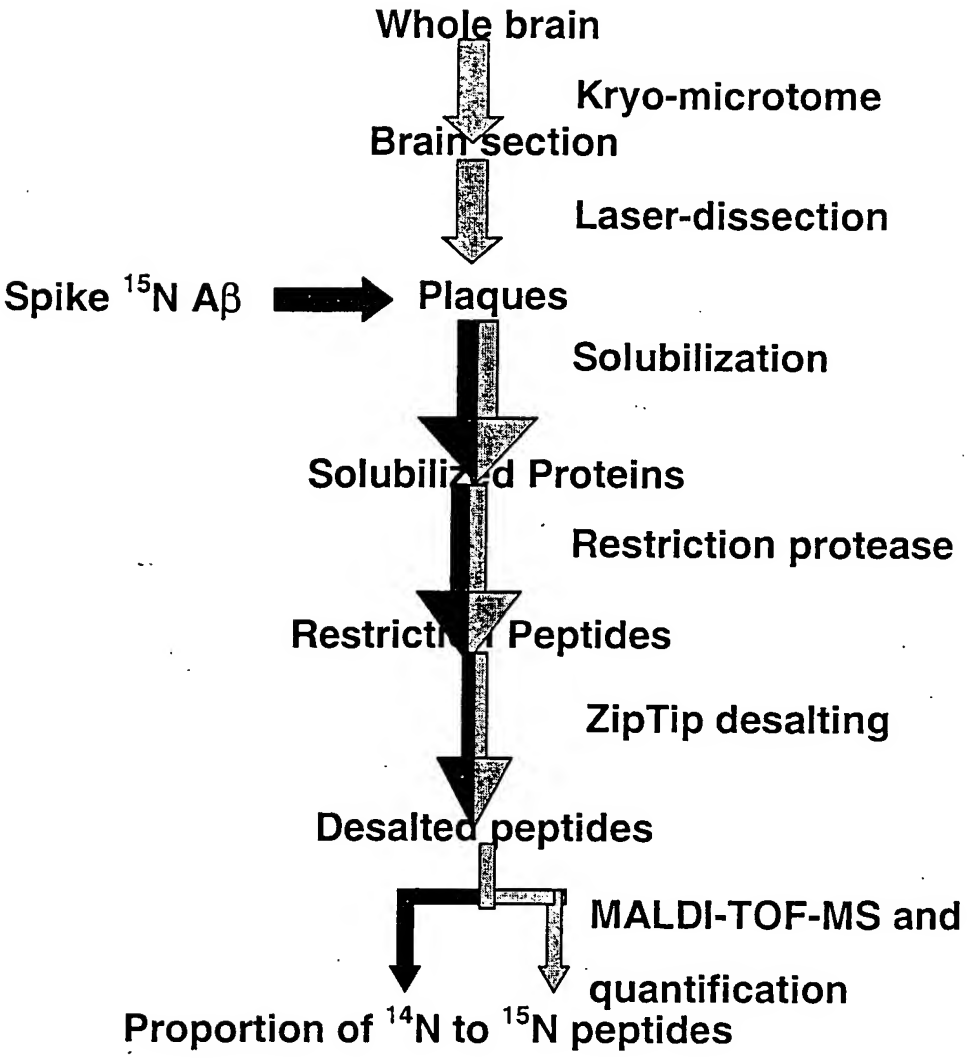
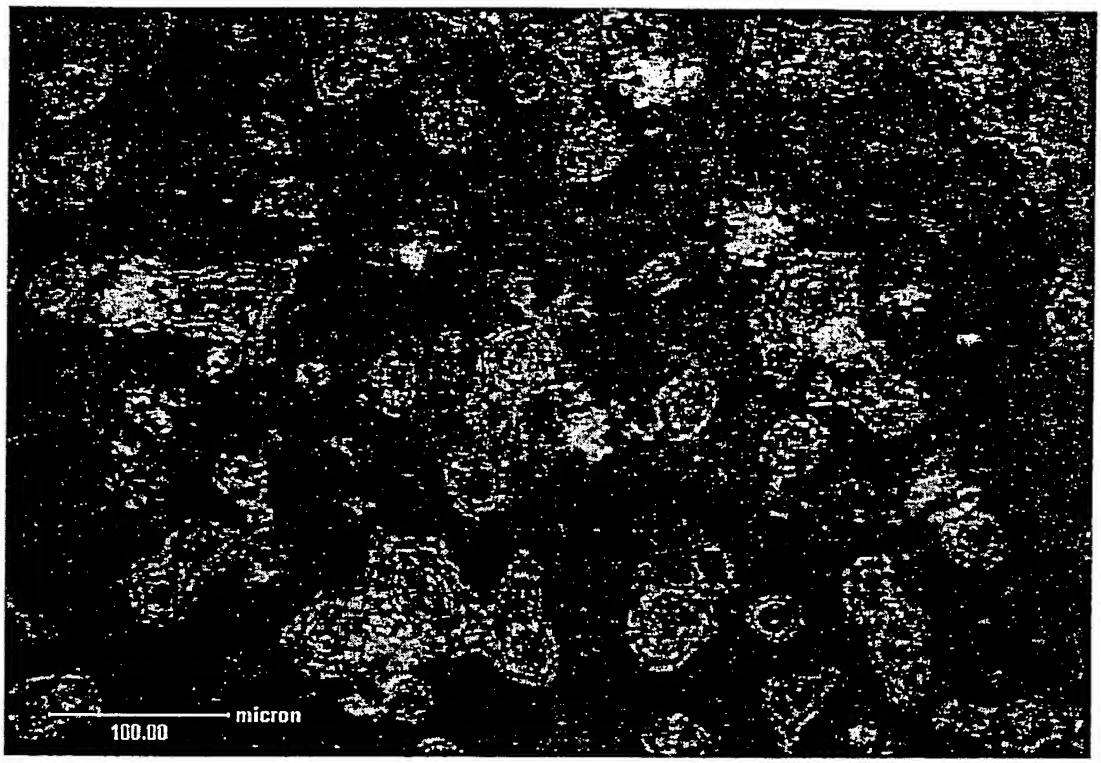

Whole brain
Kryo-microtome
Brain section
Laser-dissection
Spike ^{15}N Aβ
Plaques
Solubilization
Solubilized Proteins
Restriction protease
Restricted Peptides
ZipTip desalting
Desalted peptides
MALDI-TOF-MS and
quantification
Proportion of ^{14}N to ^{15}N peptides

Figure 2

A



B

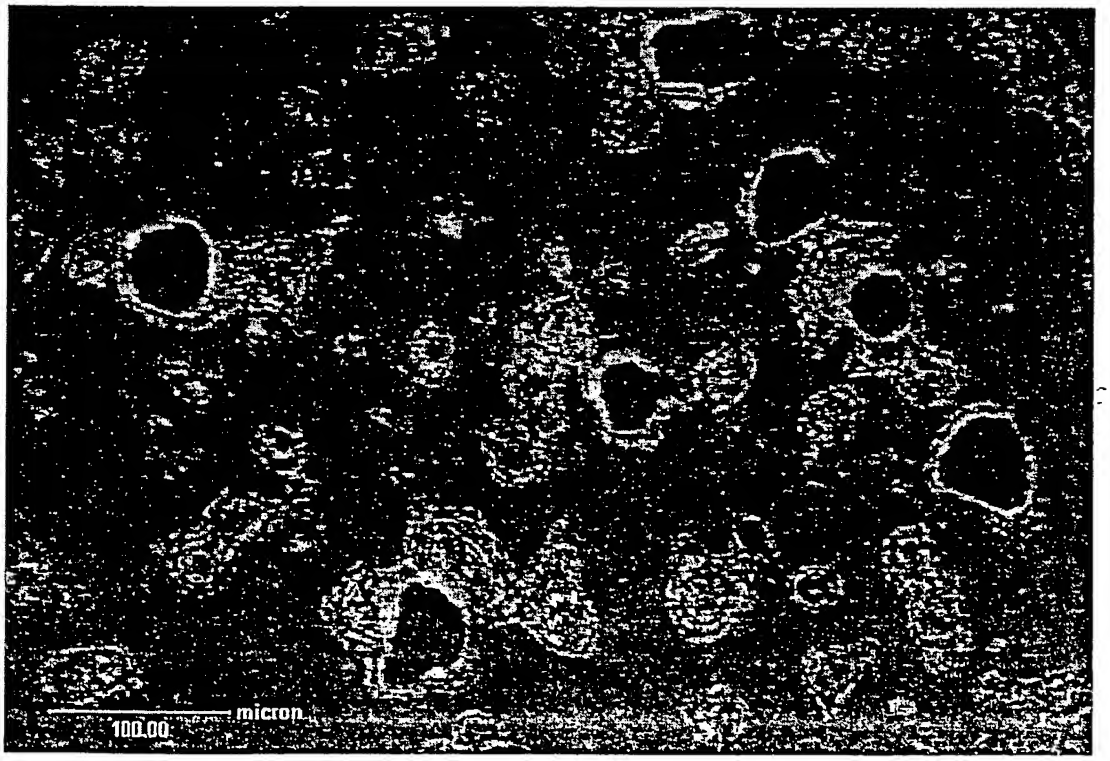


Figure 3A

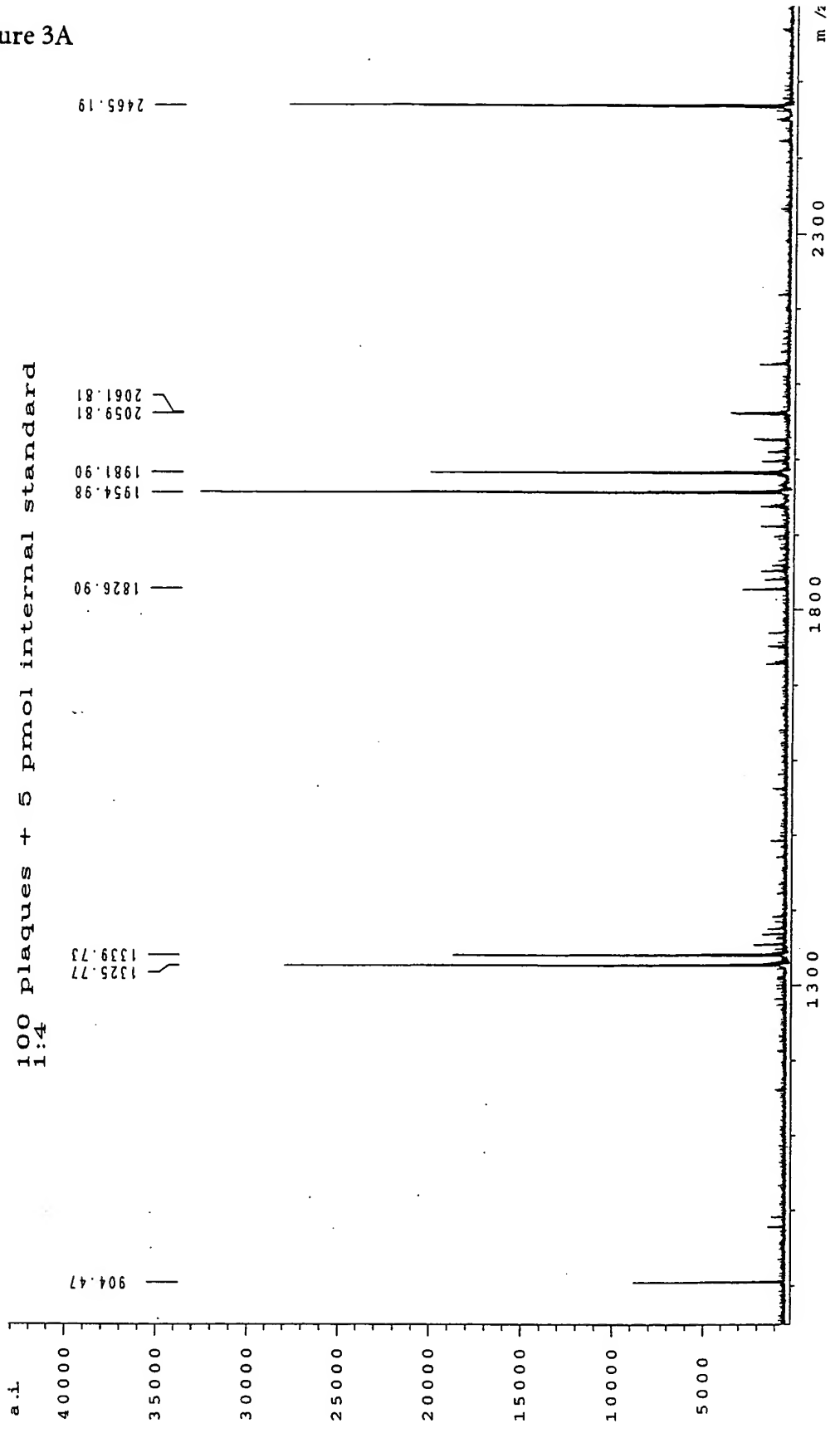

100 plaques + 5 pmol internal standard
1:4
a.i.
40000
35000
30000
25000
20000
15000
10000
5000
904.47
1325.77
1339.73
1826.90
1954.98
1981.90
2059.81
2061.81
2465.19
1300
1800
2300
m/z

Figure 3B

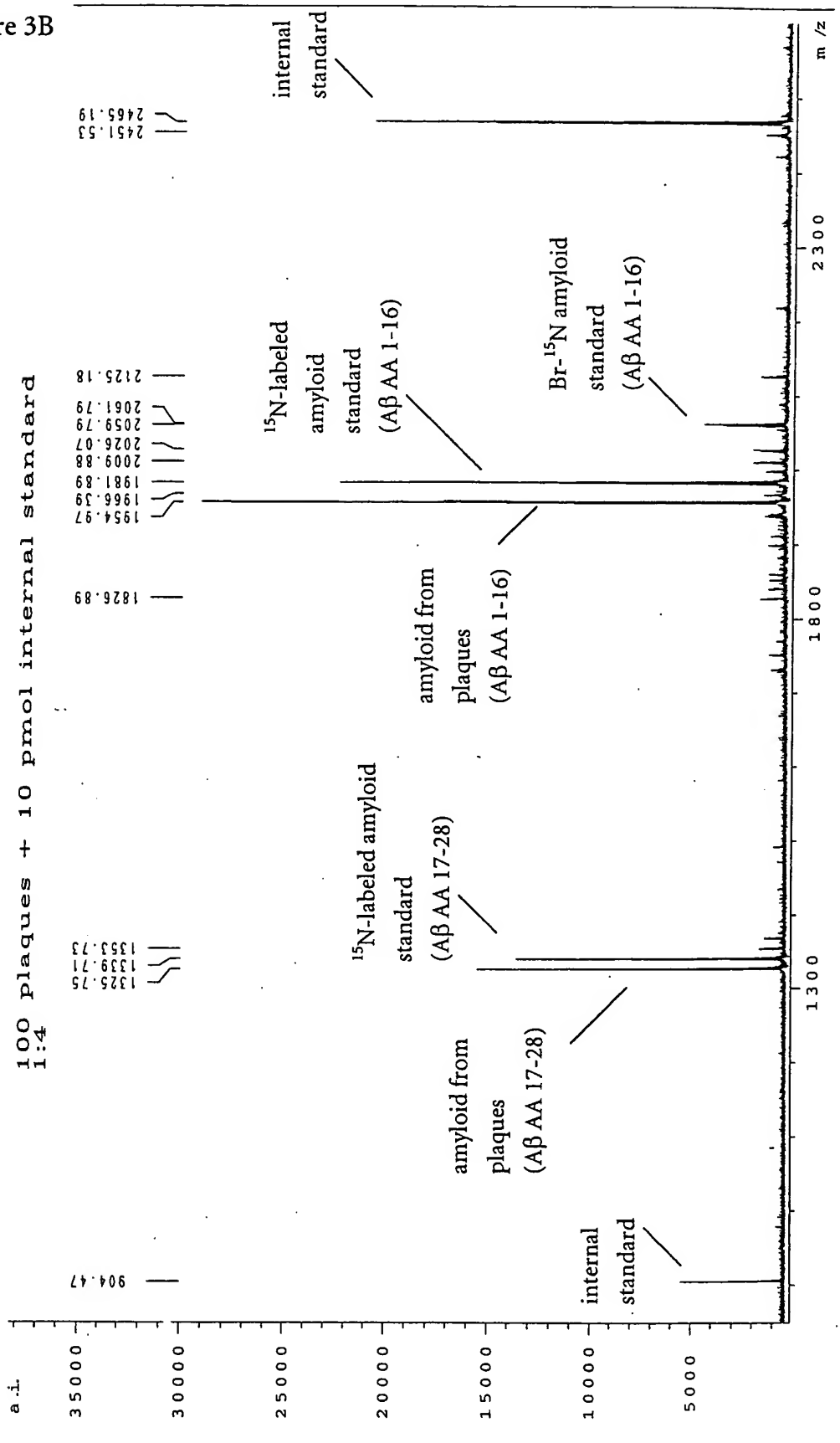

100 plaques + 10 pmol internal standard
1:4
a.i.
35000
30000
25000
20000
15000
10000
5000
1300
1800
2300
m/z
904.47
1325.75
1339.71
1353.73
1826.89
1954.97
1966.39
1981.89
2009.88
2026.07
2059.79
2061.79
2125.18
2451.53
2465.19
internal standard
amyloid from plaques (Aβ AA 17-28)
^{15}N-labeled amyloid standard (Aβ AA 17-28)
amyloid from plaques (Aβ AA 1-16)
^{15}N-labeled amyloid standard (Aβ AA 1-16)
Br-^{15}N amyloid standard (Aβ AA 1-16)
internal standard

Figure 3C

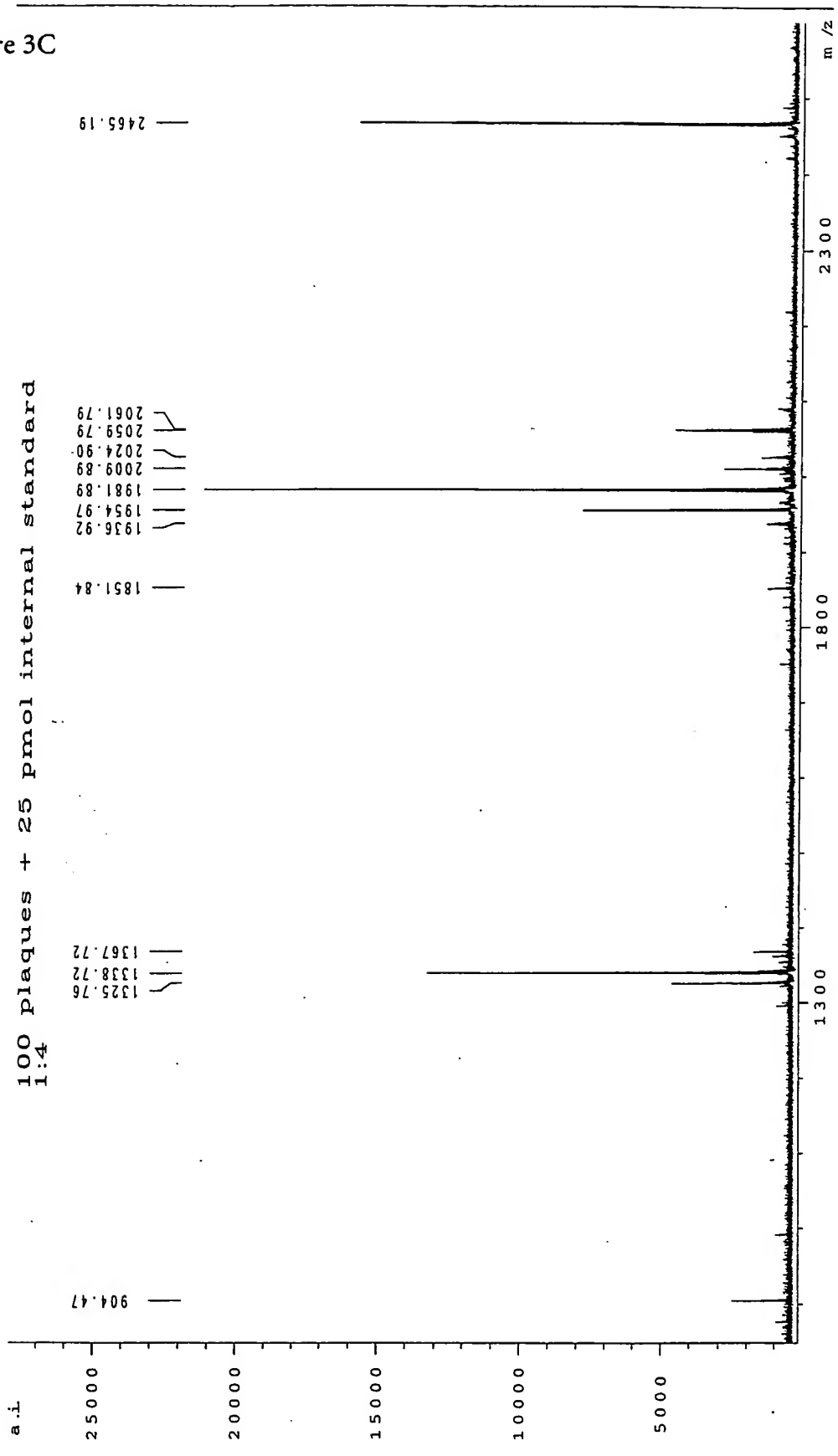

100 plaques + 25 pmol internal standard
1:4
a.i.
25000
20000
15000
10000
5000
904.47
1325.76
1338.72
1367.72
1851.84
1936.92
1954.97
1981.89
2009.89
2024.90
2059.79
2061.79
2465.19
1300
1800
2300
m/z

Figure 4

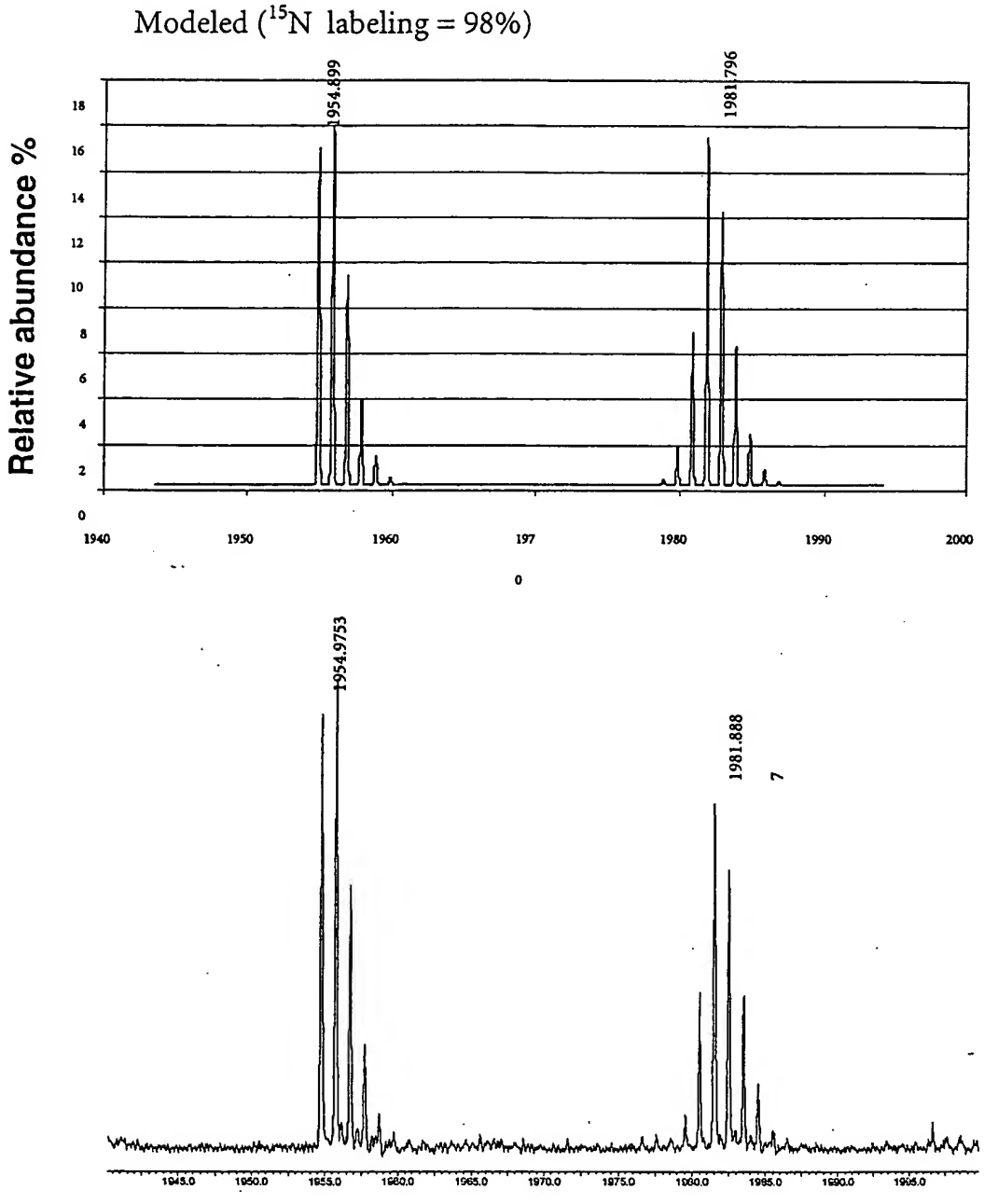

Modeled (^{15}N labeling = 98%)
Relative abundance %
1954.899
1981.796
1954.9753
1981.888

Figure 5

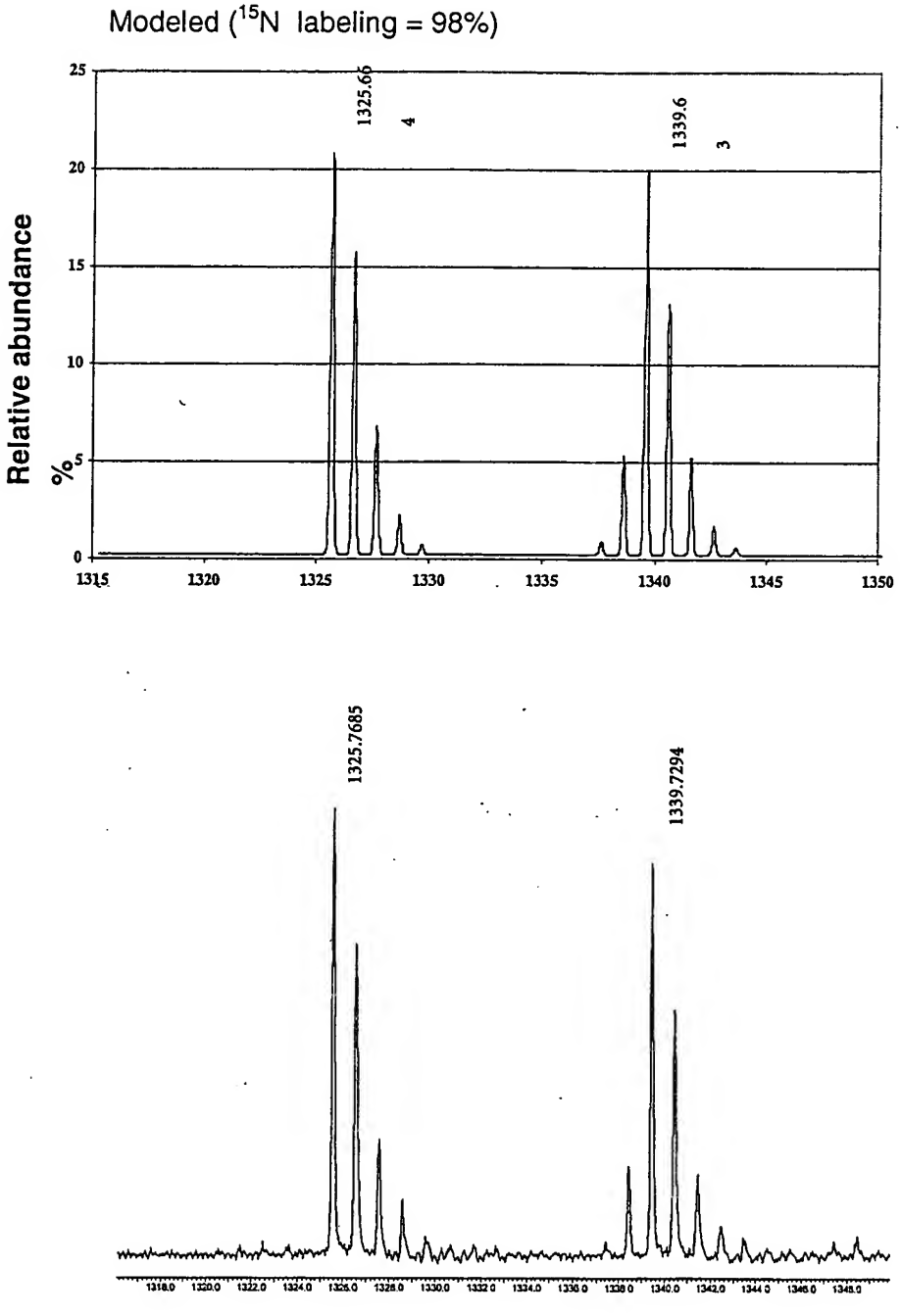

Modeled (^{15}N labeling = 98%)
Relative abundance
%
25
20
15
10
5
0
1325.66
4
1339.6
3
1315
1320
1325
1330
1335
1340
1345
1350
1325.7685
1339.7294
Experimental

Figure 6

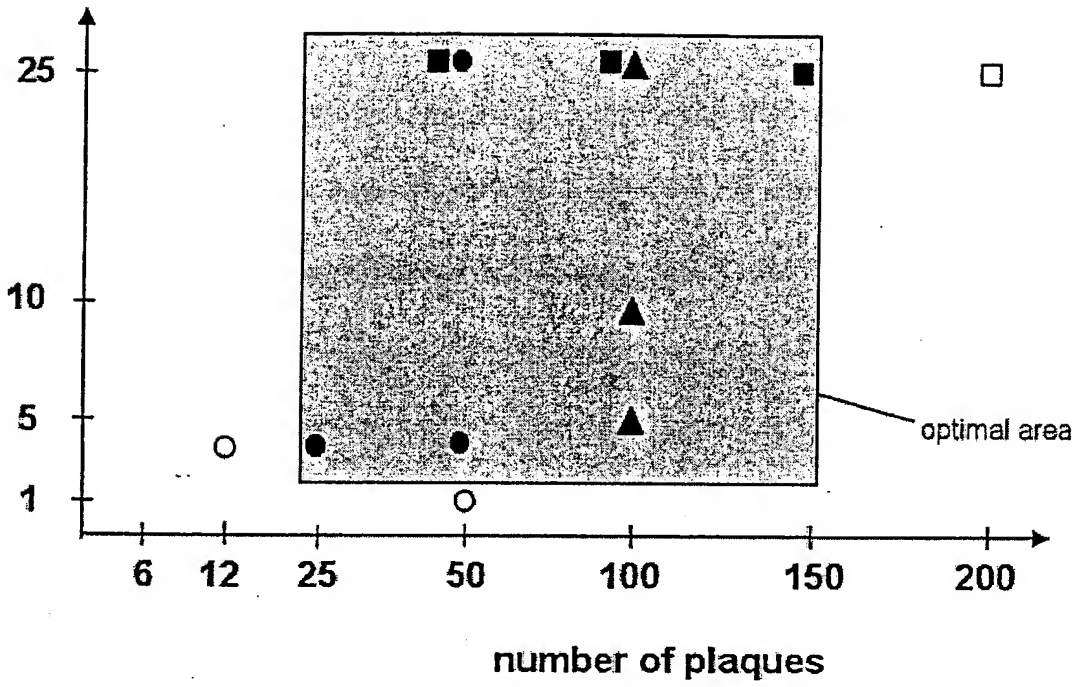


Figure 7

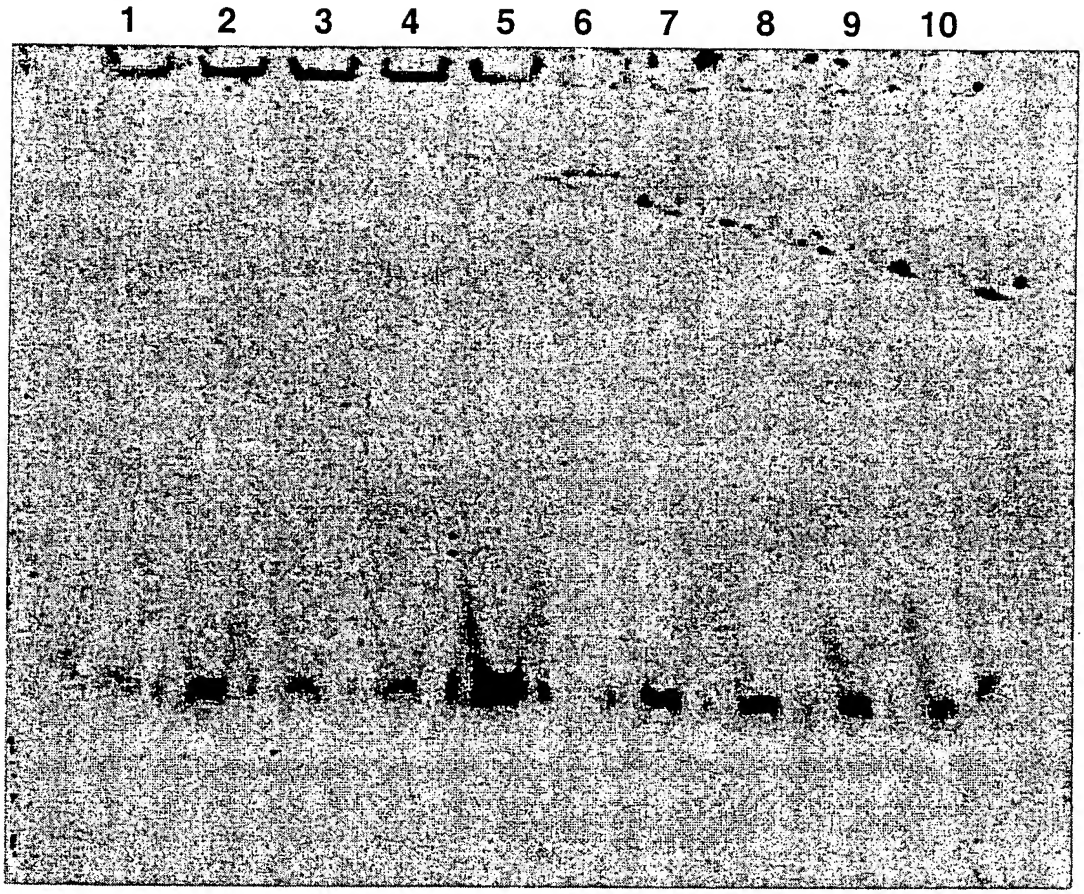
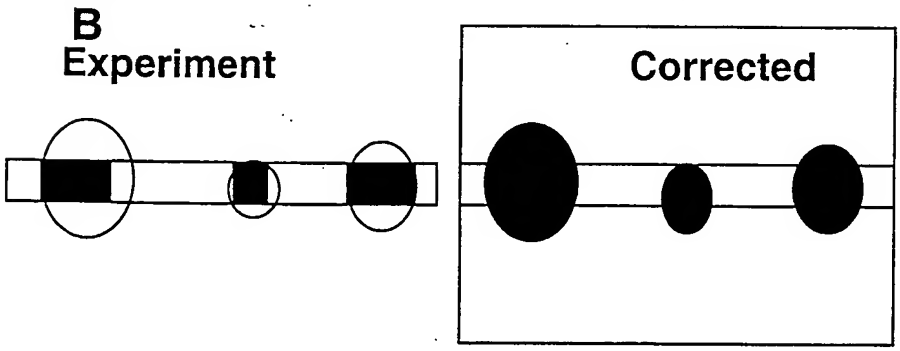


Figure 8

	Number Required	Amount of Aβ (ng)/ Plaque Experiment	Corrected
WB	1		0.07 - 0.8
MS	100	0.05 - 0.2	0.5 - 2.7
WB	1	0.3 - 0.4	0.07 - 0.8